

New Indian Gall Midges (Diptera).

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In an endeavor to discover plants in which *Pachydiplosis oryzae* Wood-Mason might breed in the absence of paddy (rice), various grasses bearing deformations similar to those produced by the above named midge were found on three different grasses by Mr. Y. Ramachandra Rao and a number of flies bred out and submitted for study through Prof. T. V. Ramakrishna, Government Entomologist of the Agricultural College and Research Institute. Several new species obtained are described below and it is worthy of note that *Orscolia cynodontis* Kieff. & Mass. was reared not only from *Cynodon dactylon* but is also recorded as issuing in association with *Pseudhormomyia fluviialis* and *Lasioptera fluitans*, both characterized below. In addition, females of another species were obtained and it is probable that further rearings would result in the securing of other gall midges.

Lasioptera fluitans n. sp.

The specimens were received from T. V. Ramakrishna, Government Entomologist, Coimbatore, India, under date of August 4, 1916, accompanied by the statement that they were reared from galls in *Panicum fluitans* along with *Pseudhormomyia fluviialis* described below. The specimens were labeled 3, XII, '15, South India, Coimbatore, from *Panicum fluitans*, Y. R. Coll.

♀. Length 1.5 mm. Antennae extending to the base of the abdomen, sparsely haired, dark brown; 18 segments, the fifth with a length equal to its diameter, the terminal segment narrowly to broadly oval; face with a conspicuous patch of white scales. Palpi yellowish, the first segment irregularly subquadrate, the second with a length nearly twice its diameter, the third a little longer than the second, more slender, and the fourth a little longer and more slender than the third. Mesonotum a shining dark brown. Scutellum dark reddish brown apically, yellowish basally, postscutellum dark brown. Abdomen almost black, with lunate submedian silvery spots on segments 1 to 5, the apex of the terminal segment yellowish. Wings hyaline, costa dark brown, the third vein uniting with the yellowish costal spot at the distal third; halteres mostly pale yellowish orange; coxae and femora basally yellowish orange, the

distal portion of femora, tibiae and tarsi a nearly uniform dark brown. Ovipositor nearly as long as the abdomen, a thick group of moderately stout, hooked spines at the base of the slender, sparsely setose, tapering lobes, the latter with a length nearly three times the width.

♂. Length 1.5 mm. Antennae dark brown, sparsely haired, extending to the base of the abdomen, the fifth with a length one-fourth greater than its diameter, the terminal segment narrowly oval. Palpi: first segment subquadrate, the second with a length twice its diameter, broader, the third a little longer and more slender and the fourth a little longer and more slender than the third. Colorational characters wanting; claws moderately stout, strongly curved, unidentate, the pulvilli as long as the claws. Genitalia: basal clasp segment rather short, stout; terminal clasp segment long, swollen basally, subacute apically; dorsal plate short, broad, deeply and triangularly emarginate, the lobes narrowly rounded distally; ventral plate long and tapering to a narrowly rounded apex; harpes long, stout, tapering apically, with an irregular quadrate tooth; style long, slender, narrowly rounded distally.

Type Cecid. a2779.

***Pseudhormomyia fluvialis* n. sp.**

The midge described below is provisionally referred to this genus and was received from T. V. Ramakrishna, Government Entomologist, Coimbatore, India, under date of August 4th, 1916. The species is stated by him to be very abundant locally, breeding on *Panicum fluitans*, a common grass in wet land areas, galls being found both in the terminal and the side shoots. The specimens were labeled No. 1, 29, VII, '16, South India, Coimbatore, from *Panicum fluitans*, Y. R. Rao Coll.

♂. Length 3 mm. Antennae one-half longer than the body, rather thickly haired, yellowish brown; 14 segments, the fifth with the stems approximately equal, each with a length one-half greater than the diameter; the basal enlargement subglobose, the distal pyriform and with a constriction near the middle, each enlargement with a whorl of long, stout setae, the basal with one and the distal with two circumfili, the loops moderately long and thick; terminal segment with the basal portion of the stem produced with a length five times its diameter, the distal enlargement shaped like a truncate cone, the length one-half greater than its diameter and apically with an equally long, moderately stout, fusiform appendage. Palpi: first segment subquadrate, the second narrowly oval, with a length nearly twice its diameter, the third twice the length of the second, slender. Mesonotum purplish brown, the submedian lines sparsely haired. Scutellum and postscutellum

yellowish brown. Abdomen rather thickly haired, purplish brown, the genitalia yellowish. Wings hyaline, the third vein uniting with the margin well beyond the apex; halteres yellowish basally, yellowish brown apically; anterior coxae dark brown, the mid and hind coxae yellowish brown; legs a nearly uniform yellowish brown, the hind tarsal segments yellowish straw; claws moderately stout, strongly curved, simple, the pulvilli as long as the claws. Genitalia: basal clasp segment moderately stout and unusually long, the length being nearly three times the greater diameter and with an obtuse internal lobe near the basal half; terminal clasp segment stout, slightly curved and with a length about thrice its diameter; dorsal plate nearly divided, the lobes long and tapering to a narrowly rounded apex; ventral plate long, broad, constricted near the distal third and broadly rounded apically; style long, slender.

♀. Length 3 mm. Antennae nearly as long as the body, sparsely haired, light brown; 14 subcylindrical segments, the fifth with a stem one-fifth the length of the subcylindrical basal enlargement, which latter has a length five times its diameter, a distinct constriction near the basal third, whorls of long, stout setae basally and subapically and short-looped, circumfili near the basal third and apically, the latter connected by a longitudinal filum; terminal segment reduced, tapering slightly distally, with a length about four times its diameter and apically a short, stout, subfusiform appendage. Palpi: first segment broadly oval, the second a little longer, more slender, and the third more than twice the length of the second and more slender. Mesonotum dark reddish brown to dark brown, the submedian lines almost naked. Scutellum and postscutellum yellowish brown, the abdomen sparsely haired, reddish brown, the segments narrowly margined posteriorly with yellowish brown, the eighth and ninth mostly yellowish brown. Wings hyaline; halteres mostly yellowish brown. Coxae yellowish brown, the legs mostly a chestnut brown; claws more slender than in the male. Ovipositor short, stout, the lobes broad, with a length about twice the diameter and tapering slightly to a narrowly rounded apex. Other characters practically as in the opposite sex.

Exuviae. Length 5.5 mm., mostly light yellowish brown; antennal horns long, narrowly conical; antennal cases extending to the base of the abdomen, the wing cases to the second abdominal segment and the leg cases of the first, second and third pairs extending to the third, fourth and fifth abdominal segments, respectively; the dorsum of each abdominal segment with a transverse, irregular row of stout, chitinous, unidentate spines, the anterior ones approximately half the size of the posterior series.

Type Cecid. a2777.

Pseudhormomyia cornea n. sp.

The midges provisionally referred to this genus were received from T. V. Ramakrishna, Government Entomologist, Coimbatore, India, under date of August 4th, 1916, accompanied by the statement that they breed in a grass, *Ischaemum ciliare*, the galls being formed mostly in the side shoots, and labeled No. 4, 2, VIII, '16, South India, Coimbatore, from *Ischaemum ciliare*, Y. R. Rao Coll.

♂. Length 2.5 mm. Antennae nearly as long as the body, sparsely haired, light brown; 14 segments, the fifth having the stems each with a length one-half greater than the diameter, the basal enlargement subglobose, the distal strongly constricted and with a length over twice its diameter; whorls of moderately stout setae occur upon both enlargements and on the distal two circumfili, the loops being moderately long, stout, and rather numerous. Palpi: first segment irregular, subquadrate, the second irregularly oval, the third more than twice the length of the second, more slender. Mesonotum reddish brown. Scutellum and postscutellum yellowish brown. Abdomen yellowish brown, the genitalia yellowish. Wings hyaline, the third vein uniting with the margin well beyond the apex; halteres yellowish. Legs mostly yellowish brown. Genitalia: basal clasp segment with a length two and one-half times its diameter and a distinct internal lobe near the basal half; terminal clasp segment stout, curved and with a length over twice its diameter; dorsal plate long, broad, deeply and triangularly emarginate, the lobes tapering mostly internally to a narrowly rounded, thickly setose apex; ventral plate long, broad, thickly setose; posterior margin narrowly rounded; style stout, tapering to a narrowly rounded apex.

♀. Length 3 mm. Antennae nearly as long as the body, thickly haired, yellowish brown; 14 segments, the fifth with a stem one-third the length of the cylindrical basal enlargement, which latter has a length about four times its diameter; low circumfili occur at the basal third and apically; terminal segment with the basal part subcylindric and having a length four times its diameter; apically there is an irregular, fusiform appendage about half the length of the basal portion. Palpi: first segment irregularly quadrate, the second as long as the first and the third twice the length of the second, slender. Mesonotum dark reddish, the submedian lines sparsely haired. Scutellum and postscutellum dark yellowish brown. Abdomen rather thickly haired, pale reddish, the terminal segments and ovipositor mostly yellowish; halteres mostly pale straw; coxae and legs mostly dark straw; claws moderately slender, strongly curved, simple, the pulvilli as long as the claws. Ovipositor short, moderately stout, the lobes sparsely haired, narrowly oval and with a length two and one-half times the width.

Type Cecid. a2778.